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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/988,595	11/20/2001	Yoshikazu Kakura	NEC-F118	8928
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466 7590 09/06/2005

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EXAMINER

FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,595

Applicant(s)

KAKURA, YOSHIKAZU

Examiner

Derrick W. Ferris

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the Abstract exceeds 150 words.

Correction is required. See MPEP § 608.01(b).

Information Disclosure Statement

2. The information disclosure statement filed 12/2/2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because no copy of the foreign search report was included. In particular, no English translation of the foreign search was provided. In addition, no English abstracts of the references cited were provided. As such, the references were not considered. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. **Claims 1, 3, 5, 7, 9, 11, 13, and 14** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,493,331 B1 *Walton et al.* ("*Walton*").

Claim 1, *Tong* in figure 1 teaches multiple base stations as 104 and multiple terminals as 106. With respect to each of said multiple base stations includes an allocating means for allocating a different time slot for each of said multiple terminals connected to the base station, see e.g., the channel assignment scheme where channels are assigned to active users (see e.g., step 914). In particular, channels (i.e., time slots using a TDM system) are assigned by user priority such that the time slots allocated to a particular cell are assigned based on priority. In addition, each terminal may communicate with more than one base station, see e.g., figure 6, lines 64-66. Thus there is an allocation means for allocating a different time slot for each of said multiple terminals connected to the base stations since users are serviced in an order. With respect to said allocating includes a first allocation means for allocating a different time slot among neighbor base stations for terminals locating in a boundary region of respective cells of these neighboring base stations when each of these neighboring base stations is communicating with the terminal by allocating a first time slot, see e.g., figure 5 in view of figure 6. In particular, note that each cell in figure 5 (where one cell has one base station as taught in figure 1) is allocated 4 out of the 12 time slots (see e.g., column 12, lines 40-47) such that each cell is not allocated the same time slot(s), see figure 6. Thus for the purpose of the rejection, the examiner uses the above interpretation and not the further interpretation taught at e.g., column 12, lines 48-51.

As to **claim 3**, see e.g., a soft handoff at e.g., column 35, lines 40-55. Quality information could be the C/I information, see e.g., figure 9. With respect to sharing of information, see the distributed control scheme, e.g., at column 34, lines 10-25.

As to **claim 5**, see similar rejection to claim 3. In addition, with respect to quality of classes, see e.g., figure 10 with respect to priority.

As to **claim 7**, see figure 6 where each cell has a defined time group such that no cell has the same time group (i.e., transmits at the same time).

As to **claims 9 and 11**, see similar rejection to claim 7.

As to **claim 13**, see e.g., column 30, lines 7-43 with respect to priority and column 23, lines 1-10.

As to **claim 14**, see e.g., column 14, lines 32-46 with respect to data rates.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2, 4, 6, 8, 10 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,493,331 B1 *Walton et al.* ("*Walton*") in view of U.S. Patent No. 6,400,697 B1 to *Leung et al.* ("*Leung*").

As such to **claim 2**, *Walton* discloses the limitations in the base claim. *Walton* also teaches using sectors, see e.g., column 35, lines 1-15. In particular, *Walton* teaches

that adjacent or nearby sectors may be designed to transmit at different times to reduce the amount of co-channel interference.

Walton may be silent or deficient to the further limitation of how the time slots are allocated for a neighboring base station. Thus *Walton* may be silent to the further limitation(s) of claim 2.

Leung teaches the further recited limitation (in combination) above at e.g., column 5, lines 25-38.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Walton* by clarifying that when one of said neighboring base stations is transmitting to a terminal in a boundary region of respective cells of those base stations, the other base-stations transmit to terminals locating in area other than the boundary region of the respective cells of those base stations in the sector opposing the sector and boundary regions on the adjacent sectors neighboring both sides of said opposing sector.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to reduce interference. In particular, *Leung* cures the above-cited deficiency by providing a motivation found at e.g., column 5, lines 25-38. Second, there would be a reasonable expectation of success since the primary reference teaches other combinations and in particular the *Leung* reference at e.g., column 36, lines 34-37. Thus the references either in singular or in combination teach the above claim limitation(s).

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As to **claim 4**, see similar rejection to claim 2.

As to **claim 6**, see similar rejection to claim 2.

As to **claim 8, 10 and 12**, see similar rejection to claim 7.

7. **Claims 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,493,331 B1 *Walton et al.* (“*Walton*”) in view of U.S. Patent No. 6,407,993 B1 to *Moulsley*.

As to **claim 16**, *Walton* teaches adjusting the power, see e.g., column 4, lines 44-46. In particular, *Walton* teaches minimizing interference, see e.g., column 7, lines 30-40.

However, *Walton* does not explicitly teach providing “uniform” power.

Moulsley teaches the above limitation at e.g., column 4, lines 34-45 and column 10, lines 32-42.

The examiner proposes to modify *Walton* to clarify that the power changed can be “uniform power”.

Thus the examiner notes that it would have been obvious to one skilled in the art prior to applicant’s invention to further include the limitation above. In particular, one skilled in the art would have been motivated to make the above modification for the purpose of reducing or eliminating interference. *Moulsley* teaches the above limitation at e.g., column 10, lines 32-41. *Walton* also teaches reducing interference at e.g., 10, lines 32-42. Examiner also notes a reasonable expectation of success since both references teach TDMA.

As to **claims 15 and 17**, in addition to the similar reasoning for claim 16, *Walton* may also be silent or deficient to the further limitation of transmitting from an antenna with beam directivity *perpendicular* in relation to the ground.

The examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to transmit perpendicular to the ground. In particular, one skilled in the art would have been motivated to transmit perpendicular to the ground for the purpose of reaching a mobile station. As such, the above limitation at issue is met by at least figure 1 of *Walton*. Furthermore, in view of applicant's figure 2, the transmission of figure 1 of *Walton* is perpendicular.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

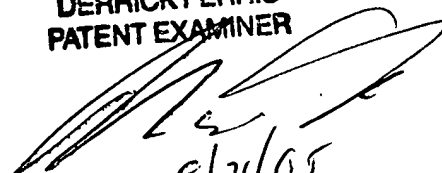
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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DWF

Derrick W. Ferris
Examiner
Art Unit 2663

DERRICK FERRIS
PATENT EXAMINER


8/3/05